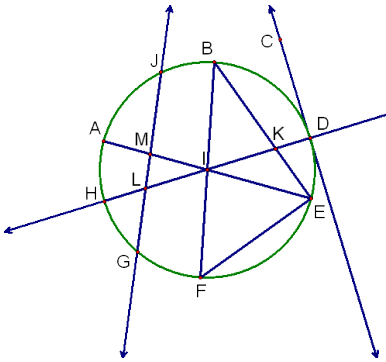
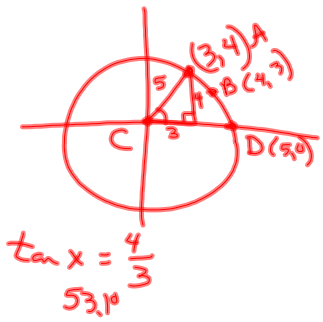


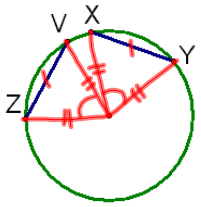
Quick Review
Name:
the circle
radius
diameter
chord
minor arc
major arc
semicircle
tangent
secant
central angle



$\tan x = \frac{4}{3}$

53.1°

10-3 Apply Properties of Chords

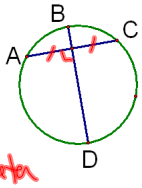


Given: $\overline{XY} \cong \overline{VZ}$

Prove: $\overset{\frown}{XY} \cong \overset{\frown}{VZ}$

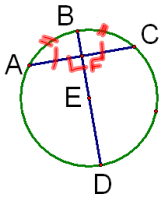
Theorem 10.3--In a circle or in congruent circles, 2 minor arcs are congruent iff their corresponding chords are congruent

Theorem 10-4 If one chord is a perpendicular bisector of another chord, then the first chord is a diameter.



G: $\overline{BD}$ is $\perp$ bisector of $\overline{AC}$

C: $\overline{BD}$ is the diameter

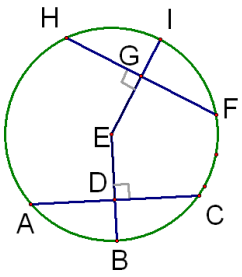


Theorem 10-5 In a circle, if the diameter is perpendicular to a chord, it bisects the chord and its arc.

G: $\overline{BD}$ (diameter) $\perp \overline{AC}$

C: $\overline{AF} \cong \overline{FC}$ $\overset{\frown}{AB} \cong \overset{\frown}{BC}$

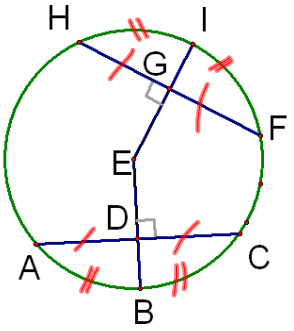
Theorem 10.6--In a circle, or in congruent circles, 2 chords are congruent iff they are equidistant from the center



G: $\overline{HF} \cong \overline{AC}$

C: $\overline{EG} \cong \overline{ED}$

or converse

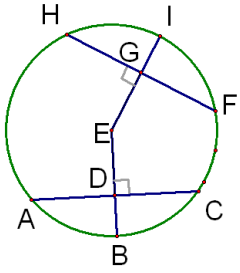


Given: $\overline{AC} \cong \overline{HF}$

What can you conclude?

$\overset{\frown}{HF} \cong \overset{\frown}{AC}$

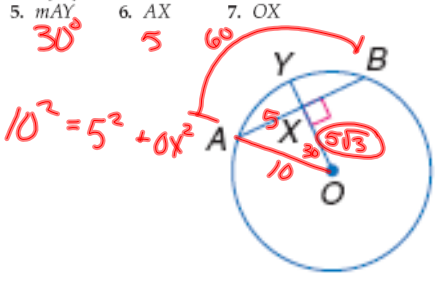
$\overline{ED} \cong \overline{EG}$



Circle O has a radius of 10, $AB = 10$, and $m\overset{\frown}{AB} = 60$. Find each measure.

5. $m\overset{\frown}{AY}$ 6. AX 7. OX

30° 5 $10^2 = 5^2 + OX^2$

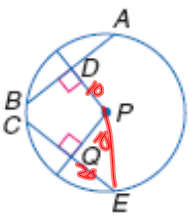


Exercises 5–7

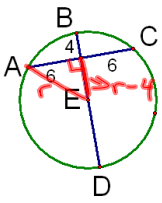
In $\odot P$, $PD = 10$, $PQ = 10$, and $QE = 20$. Find each measure.

8. AB 9. $PE = 10\sqrt{5}$

40 $10^2 + 20^2 = PE^2$



Exercises 8–9



What is the radius?

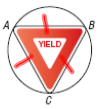
$r^2 = 36 + (r-4)^2$

$r^2 = 36 + r^2 - 8r + 16$

$8r = 52$

$r = 6.5$

Application 10. **TRAFFIC SIGNS** A yield sign is an equilateral triangle. Find the measure of each arc of the circle circumscribed about the yield sign.

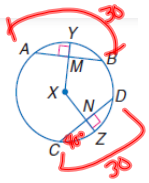


$360 \div 3$

$120°$

In $\odot X$, $AB = 30$, $CD = 30$, and $m\widehat{CZ} = 40$. Find each measure.

11. AM = 15
12. MB = 15
13. CN = 15
14. ND = 15
15. $m\widehat{DZ}$
16. $m\widehat{CD}$ = 80
17. $m\widehat{AB}$
18. $m\widehat{YB}$



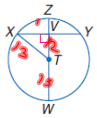
The radius of $\odot P$ is 5 and $PR = 3$. Find each measure.

19. QR = 4
20. QS = 8

Exercises 19–20

In $\odot T$, $ZV = 1$, and $TW = 13$. Find each measure.

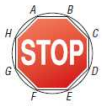
21. XV = 5
22. XY = 10

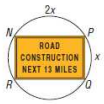


Exercises 21–22

TRAFFIC SIGNS Determine the measure of each arc of the circle circumscribed about the traffic sign.

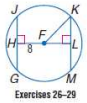
23. regular octagon
24. square
25. rectangle





In $\odot F$, $\overline{FH} \cong \overline{FL}$ and $FK = 17$. Find each measure.

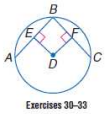
26. LK
27. KM
28. JG
29. JH



Exercises 26–29

In $\odot D$, $CF = 8$, $DE = FD$, and $DC = 10$. Find each measure.

30. FB
31. BC
32. AB
33. ED



Exercises 30–33

34. **ALGEBRA** In $\odot Z$, $PZ = ZQ$, $XY = 4a - 5$, and $ST = -5a + 13$. Find SQ.

35. **ALGEBRA** In $\odot B$, the diameter

HW p667-669
3-11,18-20,24,30

SOHCAHTOA